

**APPARATUS AND METHOD FOR AN INTERFACE UNIT
FOR DATA TRANSFER BETWEEN A HOST PROCESSING UNIT
AND A MULTI-TARGET DIGITAL SIGNAL PROCESSING UNIT
IN AN ASYNCHRONOUS TRANSFER MODE**

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Abstract of the Disclosure

A slave interface unit controls the exchange of data between a master processing unit and a plurality of slave processing units operating in the asynchronous transfer mode (ATM) of operation. The ATM slave interface unit has a receive unit and a transmit unit that exchange data cells and control signals with the ATM master processing unit. The receive unit and the transmit unit are coupled to a receive buffer storage unit and a transmit buffer storage unit, respectively. The receive buffer storage unit and the transmit buffer storage unit exchange data and control signals with the direct memory access unit. The ATM slave interface unit includes a configuration interface unit having a register that identifies the location in the data cell where the destination address is located and relates the destination address to the particular processing unit or memory location. The receive buffer unit uses the information in the register to determine the destination of the data cell.